

USGS-NPS Vegetation Mapping Program
Wupatki National Monument

Fallugia paradoxa – (*Atriplex canescens* – *Ephedra torreyana*) Cinder Shrubland

MAP CLASS	Apache Plume Cinder Shrubland, Wupatki Wash System
COMMON NAME	Apache Plume – (Fourwing Saltbush - Torrey's Joint-fir) Cinder Shrubland
PHYSIOGNOMIC CLASS	Shrubland (III)
PHYSIOGNOMIC SUBCLASS	Evergreen shrubland (III.A)
PHYSIOGNOMIC GROUP	Extremely xeromorphic evergreen shrubland (III.A.5)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural (III.A.5.N)
FORMATION	Broad-leaved and microphyllous evergreen extremely xeromorphic subdesert shrubland (III.A.5.N.a)
ALLIANCE	<i>Fallugia paradoxa</i> Shrubland Alliance

CLASSIFICATION CONFIDENCE LEVEL Weak

USFS WETLAND SYSTEM Upland

RANGE

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Apache Plume – (Fourwing Saltbush - Torrey's Joint-fir) Cinder Shrubland is a common association throughout Wupatki NM and the environs, often occurring in small areas within cinder substrate. This association was located in Wupatki NM specifically near Kana a Wash, Crack-in-rock Road, and on Doney Mountain. In the Forest Service lands, it was located east of Highway 89 adjacent to the Tuba City Road Tank.

ENVIRONMENTAL DESCRIPTION

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Based on seventeen relevés, this association's elevation ranged from 4,462-6,070 ft (1,360-1,850m) (average 5,003 ft/1,525 m). It occurs on flat land to steep hillslopes from 0-48% slope (average 18%). This association sometimes occurs within washes or sheetflow areas. The association is found on red and black cinder.

MOST ABUNDANT SPECIES

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<u>Stratum</u>	<u>Species</u>
Shrub	<i>Atriplex canescens</i> , <i>Ephedra torreyana</i> , <i>Fallugia paradoxa</i>

ASSOCIATED SPECIES

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Artemisia dracunculus, *Bouteloua eriopoda*, *Bouteloua gracilis*, *Brickellia oblongifolia*, *Ephedra viridis*, *Ericameria nauseosa*, *Gutierrezia sarothrae*, *Hesperostipa comata*, *Muhlenbergia porteri*, *Phacelia welshii*, *Pleuraphis jamesii*, *Tetradlea coulteri*

VEGETATION DESCRIPTION

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Apache Plume – (Fourwing saltbush - Torrey's Joint-fir) Cinder Shrubland total vegetation cover ranges from 6-40% (average 20%) with 4-27% (average 16%) absolute cover in the shrub layer and 1-17% (average 5%) absolute cover in the herbaceous layer. The total species diversity ranged from 6-24 species (average 12) within the 17 relevés sampled.

The shrub layer is dominated by *Fallugia paradoxa* with 2-22% absolute cover (average 9%). *Atriplex canescens* and *Ephedra torreyana* are also often consistent species within this association; *Atriplex canescens* with 0-7% (average 2% absolute cover) and *Ephedra torreyana* with 0-9% (average 3% absolute cover). Other shrub species like *Ericameria nauseosa* may dominate this association as smaller patches within larger *Fallugia paradoxa* matrix. The herbaceous layer is low to moderate in cover with no consistent species.

CONSERVATION RANK G?

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DATABASE CODE CEGL005806

MAP CLASSES

The association Apache Plume – (Fourwing Saltbush - Torrey's Joint-fir) Cinder Shrubland is represented by map class Apache Plume Cinder Shrubland (map code 21) and can also occur as a mosaic within the map class Wupatki Wash System (map code 24).

The Wupatki Wash System is a mosaic of associations that includes: *Sporobolus airoides* Herbaceous Vegetation, *Artemisia filifolia* – *Ephedra (torreyana, viridis)* Shrubland, *Atriplex canescens* / *Sporobolus airoides* Shrubland, *Atriplex canescens* Desert Wash Shrubland (Provisional), and *Fallugia paradoxa* – (*Atriplex canescens* – *Ephedra torreyana*) Cinder Shrubland.

The total area mapped within Wupatki NM is 2,471 ac (1,000 ha) within 576 polygons and the total area in the park environs is 2,414 ac (977 ha) within 374 polygons.

COMMENTS

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Cinder substrate and the presence of *Fallugia paradoxa*, *Atriplex canescens*, or *Ephedra torreyana* are diagnostic for this association. Cover ranges from sparse to moderate. For sparse examples of this association, the diagnostic species may be widely spaced. *Fallugia paradoxa* is the most consistent species for this association.

Note:

This association is found in two different map classes:

- 1) [Apache Plume Cinder Shrubland](#)
- 2) [Wupatki Wash System](#)